

I. General Information

Course Times and Location: MWF 1:00 PM-1:50 PM, Morton 239; CRN 17105

Prerequisites: none (but high school biology and chemistry would be helpful)

Instructor: Dr. Beverly Sher

Office Location: ISC-3, Room 2283

Campus phone: 1-2825 (please don't leave voice mail-I don't check it very often)

E-mail address: btsher@wm.edu (please put "Emerging Diseases" in subject line)

Office Hours: Mondays from 2:30 to 4:00 PM, or by appointment; schedule appointments by email.

II. Course Description

The emergence of new diseases, such as AIDS, and the resurgence of previously controlled diseases, such as tuberculosis, poses a major challenge to public health. Many different variables affect the human response to these diseases, from factors related to the biology of the individual disease-causing organisms to features of the society in which they become a threat. An effective response to this phenomenon requires the cooperation of people with expertise in a wide variety of fields. We will examine the biology of some of these diseases, the responses of the societies that they afflict, the roles of the professionals involved in their management, and the measures needed to restrict the impact of new and reemerging diseases in the future.

III. Course Objectives

College 150 seminars are an integral part of the College of William and Mary's curriculum. These reading-, writing-, and discussion-intensive courses are designed to help students improve their writing and critical thinking skills, to introduce them to research methods and strategies, and to promote independent learning.

The objectives for this course are the following:

- *To explore a current interdisciplinary problem in depth
- *To explore the scientific process as practiced by working scientists
- *To improve students' writing skills and confidence in those skills
- *To improve students' oral communication skills and confidence in those skills
- *To allow students to explore an area of interest through individual library research

IV. Using the Writing Center

Given that this will be a writing-intensive course, students are strongly encouraged to seek help from the Writing Center. Located on the first floor of Swem Library, the Writing Resources Center serves students, faculty, and staff. Writing consultants (students trained by the Writing Resources Center staff) give individual assistance with writing assignments at any stage of the writing process. Consultations are free, but must be scheduled in advance.

V. Texts and Other Readings

The books and movies required for the course, in the order in which we will use them, are:

Spillover: Animal Infections and the Next Human Pandemic, by David Quammen

Missing Microbes: How the Overuse of Antibiotics is Fueling Our Modern Plagues, by Martin Blaser

Writing Papers in the Biological Sciences, Fifth Edition, by Victoria McMillan

How to Survive a Plague (movie)

The Invisible Cure: Africa, the West, and the Fight Against AIDS, by Helen Epstein

Health Care Reform: What It Is, Why It's Necessary, How It Works, by Jonathan Gruber

Zika: The Emerging Epidemic, by Donald G. McNeil, Jr.

There will also be short reading assignments from various scientific journals and other publications; these will be available on the course Blackboard site.

VI. ProMED

Students must subscribe to the ProMED electronic mailing list. To subscribe to ProMED, go to www.promedmail.org, click on the "Subscribe" button at the top of the page, and follow the instructions. Choose the digest form of the list, as this will result in one or two long daily ProMED messages instead of twenty short ones. A copy of the first page of the initial welcome message from the list is due in class on Wednesday, September 5.

VII. The News

News relevant to this seminar appears every day. Reasonably reliable news sources include:

- *Reputable national newspapers, including *The New York Times* and *The Washington Post*
- *Scientific journals, such as *Science* and *Nature*, and their associated websites.
- *National Public Radio's news programs, including *All Things Considered*, *Morning Edition*, and *Science Friday*, available online at www.npr.org
- *The BBC, available online at www.bbc.co.uk
- *PBS news and science programs, such as *The NewsHour*, *Frontline*, and *NOVA*, available online at www.pbs.org
- *ProMED
- *The University of Minnesota's Center for Infectious Diseases Research and Policy's news service, available at <http://www.cidrap.umn.edu/cidrap/index.html>

We will spend the first few minutes of every class period discussing the news, so if you find something interesting, bring it to class!

VIII. Class Climate, Culture, and the Honor System

This course is a COLL 150 course, designed to give students a chance to explore an academic area of interest through intensive reading, writing, and discussion. Accordingly, most class periods will be spent in discussion of the assigned reading, with frequent opportunities to write. In order for discussions to be productive, all students need to feel comfortable participating. We will create and maintain an atmosphere of mutual respect in which everyone's ideas can be heard.

Collaboration and Feedback

Scientists always seek feedback from their colleagues when preparing papers and oral presentations. I encourage students to collaborate in this way as well: thus, peer feedback will be required at the later stages of many assignments.

Students must work *independently* when:

- *Doing short, informal writing assignments, such as discussion points and article summaries
- *Writing the first versions of the book review and term paper
- *Preparing the outline and slides for the journal club presentation

Students must seek feedback from other students when:

- *Revising and editing later versions of the book review and term paper
- *Giving the practice talk for the journal club presentation

"Feedback" includes helpful comments and constructive criticism; it does NOT include doing the work for someone else. Because the College of William and Mary has an honor system, I feel comfortable encouraging collaboration between students under the rules described above. Please see me if you have any questions about how the Honor System applies to your responsibilities in this course.

Plagiarism

Plagiarism is a serious Honor Code violation. Our writing manual, Victoria E. McMillan's *Writing Papers in the Biological Sciences (Fifth Edition)*, defines plagiarism as follows:

"*Plagiarism* is the theft of someone else's words, work, or ideas. It includes such acts as (1) turning in a friend's paper (or a paper purchased online) and saying it is yours; (2) using another person's data or ideas without acknowledgement; (3) copying an author's exact words and putting them in your paper without quotation marks; and (4) using wording that is very similar to that of the original source but passing it off as entirely your own, even while acknowledging the source." (McMillan, p. 23.)

In this course, student work found to contain plagiarized material will be worth zero points, and will guarantee the perpetrator a visit with the Honor Council. If you have questions about plagiarism and how to avoid it, ask me in person, by phone, or by email: I will be happy to answer them. I will be using Safe Assign, a service that is part of the Blackboard site, to monitor writing assignments for possible plagiarism.

IX. Course Responsibilities

Preparation for Class Discussions

Unlike most science courses, this is a seminar course, and most class periods will be spent in discussion of the reading assignments. For this reason, students must come to class prepared to discuss the day's assignment. Students will be required to bring a typed list of points to raise and questions to ask (discussion points) to class; these lists will be collected at the end of each class session and used as a partial basis for the class participation grade. Guidelines for discussion points are posted in the Course Documents section of the Blackboard site. Assignments will be announced one class period ahead of their due date in the Assignments section of the course Blackboard site.

Journal Club

Each student will be responsible for presenting a short article to the class in a scientific journal club format. Guidelines for this assignment are posted in the Course Documents section of the Blackboard site. A schedule listing each student's presentation date will be posted in the Course Documents portion of the Blackboard site by the beginning of the second week of class, and the journal club papers will be posted in the Assignments section of the course Blackboard site two weeks before they are to be presented in class. Thus, each presenter will have two weeks to work on the presentation.

The presenting student will provide an overview of the article, supply explanatory background information, answer questions, and direct class discussion of the article. Preparation for the presentation will include at least one practice talk to be given beforehand to at least one student who is taking Emerging Diseases this semester. Presentations will be approximately fifteen minutes long, with roughly half of that time spent in questions and discussion; brevity and clarity will be rewarded. Articles will be chosen by the instructor. Sample slides are available in the Course Documents section of the Blackboard site.

All other students must read the article in advance and type a short summary to be turned in on the day of the presentation; the summaries will count towards the class participation grade. In addition, each student will be required to ask a total of five questions in class during journal club presentations over the course of the semester; this will count toward the class participation grade. Each student must be an audience member and provide feedback for at least one practice talk.

Book Review

Students will choose a nonfiction book that is relevant to the topic of emerging diseases, read it, and write a book review. A list of books that are already approved for this assignment is in the Course Documents section of the Blackboard site. If you would like to review a book that is not on the list, you must get instructor permission by email before 8:30 PM on Tuesday, September 4, as you must bring the book that you plan to review to class the next day. Sample book reviews are available in the Course Documents section of the Blackboard site.

Term Paper

Students will choose a topic relevant to the emerging diseases problem, research it, and write a term paper in review article format. The instructor must approve your topic before you start to work on your paper. Sample term papers are available in the Course Documents section of the Blackboard site.

Peer Feedback: Writing Partners

Each student will be randomly assigned a writing partner for the book review and the term paper. The comments that writing partners provide on the first versions of these assignments will count towards the writing partners' class participation grades.

X. Course Policies

Grading

Course grades will be determined as follows: class participation 20%; book review 25%; journal club presentation 10%; term paper 45%. There will be no exams.

Deadlines and Late Penalties

1) Typed discussion points and journal club article summaries will be due in class. Discussion points and article summaries turned in late will be worth zero points: after all, the whole point of preparing discussion points and article summaries is to be able to use them in class discussion.

2) All other course assignments will also be due in class, unless otherwise specified. Late assignments will lose points according to the following rules:

- *Assignments turned in within the first 24 hours after the end of the class period in which they are due will be worth 25% less than their original value.
- *Assignments turned in within the second 24 hours after the end of the class period in which they are due will be worth 50% less than their original value.
- *Assignments turned in within the third 24 hours after the end of the class period in which they are due will be worth 75% less than their original value.
- *Assignments that are turned in more than 72 hours after the end of the class period in which they are due will be worth zero points.

“Technical Difficulties” and Deadlines

To avoid late penalties caused by problems with computers, printers, and other devices:

1) Finish your work early. Murphy’s Law governs the behavior of electronic devices such as computers and printers, so you should not be planning to print your term paper half an hour before class begins: that’s asking for trouble. Print it well before it is due!

2) Use good computer hygiene. Save frequently, and save to multiple locations: email your work to yourself, copy it onto a flash drive...

2) If a technological disaster strikes and you cannot print your finished work, email it to me *before* class starts so that I will know that it was finished on time: doing so will stop the clock. Work emailed to me after class starts will receive the standard late penalty. Note that I will not print out emailed assignments and grade them: you must still turn in a paper copy in order to receive credit for the assignment even if you have emailed your work to me.

Extensions

Extensions will *only* be given in consultation with the Dean of Students’ Office. If you are having health difficulties or other serious problems that are keeping you from finishing your work on time, the Dean’s Office can help you negotiate extensions and other appropriate remedies with your professors. The Dean’s Office is the safety net for all students at the College: don’t wait until your problems are insurmountable to talk with the nice people who work there.

Attendance

Because having a good class discussion depends on the participation of all students, your presence in class is essential. Thus, *I will be taking attendance*. Three unexcused absences will lower your course grade by one letter grade (A to B, for example); six unexcused absences will lower your grade by two letter grades; and so on. Excused absences should be arranged with me *in advance*.

*If you are a member of an athletic team or other official College group that travels during the semester, tell me about any upcoming absences related to your membership in that group in advance. These absences will be excused.

*Missing class because you are leaving early for a school break, or because you are coming back to campus late after a break, will *not* be excused, so make your travel plans accordingly. If the College is in session, you should be in class.

*Alarm Clock Disease is not an acceptable excuse for missing class.

*If you are too sick to come to class, email me or call me *before* class starts that day telling me that you are sick and will be absent. If a pattern of such absences develops, I may require you to confirm the fact that you have indeed been missing class because you were sick with the Dean of Students’ Office.

*If an emergency arises and you have no access to email or the phone (for example, you're seriously ill and have been hospitalized), get in touch with me as soon as you can afterwards, and we'll work things out.

Late Arrivals

If you arrive more than five minutes after class starts, it will count as half an unexcused absence. Thus, six late arrivals will lower your course grade by a full GPA point. Participation in an athletic training program will not be accepted as an excuse for arriving late: your coaches and trainers need to respect your academic schedule.

XI. Fall 2018 Course Calendar

Deadlines are underlined. This calendar is subject to revision! Short writing assignments, such as discussion points, are not listed. Non-class days on which assignments are due are indicated in parentheses.

| Date | Discussion Topic/ Assignment Due | Journal Club# |
|-------------------------|--|----------------------|
| Wednesday, August 29 | Introduction | |
| Friday, August 31 | Quammen I | |
| Monday, September 3 | Quammen II | |
| Wednesday, September 5 | Ebola in West Africa <u>Page 1 of the ProMED welcome message due today</u> <u>Book review topic due today: bring your book to class!</u> | |
| Friday, September 7 | Quammen III (last day to drop a course) | |
| Monday, September 10 | Quammen IV | |
| Wednesday, September 12 | Quammen V | |
| Friday, September 14 | Quammen VI | 1 |
| Monday, September 17 | Quammen VII | 2 |
| Wednesday, September 19 | Writing Workshop <u>First version of book review due in class today</u> | |
| Friday, September 21 | Superbugs | |
| Monday, September 24 | Blaser I | 3 |
| Wednesday, September 26 | Blaser II <u>Term paper topic email due at 6:00 AM</u> | 4 |
| Friday, September 28 | Intro to Library Research | |
| Monday, October 1 | Blaser III <u>Term paper topic worksheet due today</u> <u>Peer comments on book review due</u> | |
| (Tuesday, October 2) | <u>(Revising/editing worksheet due at noon in ISC 2283)</u> | |
| Wednesday, October 3 | Blaser IV | 5 |
| Friday, October 5 | Blaser V | 6 |
| Monday, October 8 | Quammen VIIa | 7 |
| Wednesday, October 10 | Quammen VIIb | |
| Friday, October 12 | AIDS in America I <u>Final version of book review due</u> | |

Fall Break: October 13-16

| <u>Date</u> | <u>Discussion Topic/ Assignment Due</u> | <u>Journal Club #</u> |
|--|---|-----------------------|
| Wednesday, October 17 Friday, October 19 | AIDS in America II: <i>How to Survive a Plague</i> AIDS in Africa I | 8 |
| Monday, October 22 Wednesday, October 24 | AIDS in Africa II AIDS in Africa III | 9 |
| Friday, October 26 | AIDS in Africa IV <u>Term paper outline due</u> <u>Last day to withdraw from a course</u> | |
| Monday, October 29 Wednesday, October 31 Friday, November 2 | AIDS in Africa V AIDS in Russia AIDS in Nigeria | 10 11 |
| Monday, November 5 Wednesday, November 7 Friday, November 9 | AIDS in America III U.S. Health Care I U.S. Health Care II | |
| Monday, November 12 | Writing Workshop <u>First version of term paper due</u> | |
| Wednesday, November 14 Friday, November 16 | U.S. Health Care III U.S. Health Care IV | 12 |
| Monday, November 19 | U.S. Health Care V | 13 |
| Thanksgiving Break: November 21-25 | | |
| Monday, November 26 | Zika I <u>Peer comments on term paper due</u> | |
| (Tuesday, November 27 Wednesday, November 28 Friday, November 30 | <u>(Revising/editing worksheet due at noon in Dr. Sher's office)</u> Zika II Zika III | 14 15 |
| Monday, December 3 Wednesday, December 5 Friday, December 7 | It All Depends... Searching for Solutions Term Paper Discussion <u>Final version of term paper due</u> | 16 |

Choosing a Term Paper Topic

Choosing a good term paper topic takes time. Plan to:

- 1) Spend time brainstorming; use news sources, websites (try the links on the course's Blackboard site), your discussion points, and your textbooks to come up with a short list of topics that interest you.
- 2) Discuss possible topics with Dr. Sher, either by e-mail, during office hours, or before/after class. Note that you must have your topic approved by Dr. Sher *before* you submit the term paper topic worksheet. An email describing your provisional topic will be due by 6:00 AM on Wednesday, September 26
- 3) Read the sample term papers available in the Course Documents section of the Blackboard site to learn what a good term paper looks like.
- 4) Do preliminary literature searches to see if the topics you have found can be covered effectively in twelve to fifteen pages of text.
- 5) Talk to one of the research librarians in Swem Library if you need help with finding information on your topic.

A good term paper topic will have the following characteristics:

- 1) The topic should be *current*: information about a disease that has become more prevalent in the last few years, a recent change in medical practice or social factors that could affect the likelihood of disease emergence and control, new technology that is relevant to control or prevention of emerging diseases...

Be sure that most of your references for your term paper were published in the last five years.

- 2) The topic should be *focused*: be sure that you can discuss details rather than generalizations. The topic of AIDS, for example, is much too broad; focusing on strategies used to reduce the spread of AIDS in a single risk group, or on a new class of drugs to treat AIDS, or on the current state of the AIDS epidemic in a single country would be better.
- 3) The topic should be *understandable*. Be sure that the references you find when you do your initial search for key sources are reasonably easy for you to understand. If all of your references appear to require a deep understanding of biochemistry and you are planning to be an English major, you should choose a less scientifically demanding topic.
- 4) The topic should be *interesting* to you. By the end of the semester, you will have spent a great deal of time with your topic. If it started out seeming boring but appropriate, you will hate it by the time the paper is finished...

Some topics that will not be approved this semester:

- 1) Biological weapons agents: variola virus, *Bacillus anthracis*...
- 2) Historical topics (for example, the history of smallpox, the history of influenza, the history of plague in the Middle Ages): the term paper must describe a *current* problem.
- 3) MRSA: the topic is just too big to be covered adequately in a single fifteen-page term paper.